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| APPLICATION NO.                                                                                           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
|-----------------------------------------------------------------------------------------------------------|-------------|----------------------|--------------------------------|------------------------|
| 10/511,165                                                                                                | 10/14/2004  | Shiro Sakiyama       | 71971-015                      | 6689                   |
| 20277 7590 05/31/2007<br>MCDERMOTT WILL & EMERY LLP<br>600 13TH STREET, N.W.<br>WASHINGTON, DC 20005-3096 |             |                      | EXAMINER<br>HILTUNEN, THOMAS J |                        |
|                                                                                                           |             |                      | ART UNIT<br>2816               | PAPER NUMBER           |
|                                                                                                           |             |                      | MAIL DATE<br>05/31/2007        | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/511,165

Applicant(s)

SAKIYAMA ET AL.

Examiner

Thomas J. Hiltunen

Art Unit

2816

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 21 May 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See attached sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

***Continuation of Part 11 of Page 1***

Applicant's arguments filed 21 May 2007 have been fully considered but they are not persuasive.

The argument that the combination of Tang et al. (USPAPN 2004/0070440) and Forbes (USPN 6,456,157) fails to disclose a current-voltage conversion circuit including a MOS transistor and having "current-voltage conversion characteristics that change according to the substrate potential of the MOS transistor" and having "a differential amplifier circuit" as recited in claim 6 is not persuasive. First, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Clearly, claims 6-9, and 11 are rejected under the combination of both Tang et al. and Forbes, not each reference alone. For instance, Fig. 3 of Forbes discloses an NMOS bias voltage producing circuit, which is composed a current to voltage conversion circuit (110 with 101) of a MOS transistor (101) a constant current source (110) wherein the current-voltage conversion characteristics change according to the substrate potential of the MOS transistor (clearly the output of Fig. 3, i.e., current-voltage characteristics, of Fig. 3 change according to the substrate potential, i.e., VBG of Fig. 3, see Figs. 5 and 7). With respect to the differential amplifier as recited in claim 6 it can be seen in Fig. 3 and Fig. 4 that Tang et al. discloses such a differential amplifier (i.e., 100 of Fig. 3 of Tang et al.), which controls the substrate potential (i.e., output of 200, Vbs of Fig. 3 of Tang et al., i.e.,

output of Fig. 3 of Forbes as modified) to be equal to the predetermined operating power supply (Local Vcc) of the main circuit (300), due to the regulation/buffering of Vbs (i.e., output of Fig. 3 of Forbes et al. as modified) by circuit 100 of Fig. 3 of Tang et al, Vbs will be controlled to be equal to Local Vcc at the output of 100. Therefore, the above combination discloses all of the recited limitations of claim 6.

The argument that Kaenel (USPN 5,682,118) fails to disclose the power supply voltage control circuit controls a voltage value of the operating power supply voltage supplied to the main circuit so that an actual saturation current value of the MOS transistors in the main circuit is equal to the target saturation current" is not persuasive. It can be seen in Fig. 7 of Kaenel that Vlog (i.e., operating power supply voltage of the main circuit 119) is maintained by the control circuit (i.e., circuits that output VBn and VBp), due to the control circuit's control of Vlog generating circuit 104 (i.e., VBn and VBp controls 104, which outputs Vlog). Furthermore, the control circuit controls the substrate potential of the circuit 119 (i.e., VBn and VBp are input to 119), while Kaenel's circuit operates to control the threshold of the transistors of 119 one of ordinary skill in the art would understand that such control of a transistor's threshold correlates to the control of the transistor's saturation current. Therefore, due to the regulated control of Vlog and the regulated substrate potential of the transistors of circuit 119 provided by the control circuit of Fig. 7 Kaenel's circuit operates as recited in claim 13. Furthermore, it can be seen that Kaenel's substrate control circuit has essentially the same structure/functionality as Applicant's present invention as claimed, thus Kaenel's circuit must operate as recited in claim 13.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Hiltunen whose telephone number is (571)272-5525. The examiner can normally be reached on M-F 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TH  
May 25, 2007

  
Kenneth B. Wells  
Primary Examiner